AMENDMENTS TO THE CLAIMS:

Please amend claims 45, 46, 62, 78, 96 and 97. Please add claims 101-104. This listing of the claims replaces all prior versions and listing of claims in the application.

LISTING OF CLAIMS:

1 – 44 Cancelled

45. (Currently amended) A nucleic acid molecule that encodes a mutant adeno-associated virus (AAV) Rep protein that has increased activity, wherein:

increased activity of the Rep protein is manifested as an increased titer of virus upon introduction and replication of virus under standard conditions for wild type virus production in a host cell that contains ~~of virus,~~ in its genome~~, containing~~ the nucleic acid molecule encoding the mutant Rep protein, compared to the titer of virus upon introduction and replication of a virus in a host cell containing a wild type Rep gene;~~, wherein:~~

the AAV serotype is an AAV-1, AAV-2, AAV-3, AAV-3b, AAV-4 or AAV6 serotype; and

the mutation is in the ~~equivalent~~ corresponding position in each serotype.

46. (Currently amended) [[A]] An isolated cell, comprising the nucleic acid molecule of claim 45.

47. – 61. Cancelled

62. (Currently amended)) A nucleic acid molecule of claim 45, ~~comprising~~ encoding a mutant AAV Rep protein having mutations at one or more [[of]] amino acid residues, whereby the activity of the mutant Rep protein is increased as assessed by rAAV production compared to the ~~native~~ wild type Rep protein,

wherein:

the mutations comprise replacements of ~~codons encoding~~ native amino acid residue(s) selected from among: T by N at position 350 of SEQ ID No. 747; T by I at position 462 of SEQ ID No. 747; P by R or L or Y at position 497 of SEQ ID No. 747; T by N at position 517 of SEQ ID No. 747; G by D or S at position 598 of SEQ ID No. 747; or V by P at position 600 of SEQ ID No. 747 or the same replacements ~~of~~ at the corresponding ~~residues~~ positions in the other serotypes;

residue 1 corresponds to residue 1 of the Rep78 protein encoded by nucleotides 321-~~323~~ 2186 of SEQ ID No. 746 of the AAV-2 genome; and

the listed ~~residues~~ positions reference ~~their~~ positions in the sequence of amino acids set forth in SEQ ID NO:747 encoded by ~~in~~ wildtype AAV-2 nucleic acid molecules set forth in SEQ ID NO:746 ~~and the encoded proteins encoding the sequence of amino acids set forth in SEQ ID Nos. 746 and 747, respectively~~.

63. – 69. Cancelled.

70. (Original) A recombinant AAV, comprising the nucleic acid molecule of claim 62.

71. – 77. Cancelled.

78. (Currently amended) [[A]] An isolated cell, comprising the recombinant AAV of claim 70.

79.- 93. Cancelled.

94. (Previously presented) The nucleic acid of claim 62, wherein the Rep protein is Rep 78, Rep 68, Rep 52 or Rep 40.

95. Cancelled.

96. (Currently amended) A nucleic acid molecule of claim ~~45~~ 62, ~~comprising~~ wherein:

the nucleic acid molecule encodes a mutant Rep protein comprising a sequence of amino acids ~~encoding any of the Rep proteins~~ set forth in any of SEQ ID Nos. 113-116, 213-216, 233-244, 277-280, ~~290~~ 293, 294, 297 and 298; ~~and~~ or

the nucleic acid molecules ~~encoding~~ encode Rep proteins in any of AAV-1, AAV-2, AAV-3, AAV-3b, AAV-4, and AAV-6 ~~and AAV-7~~ containing ~~the corresponding codon~~ the same replacements at the corresponding positions.

97. (Currently amended) A nucleic acid molecule of claim ~~45~~ 62, ~~comprising~~ encoding a mutant Rep protein comprising a sequence of amino acids ~~encoding any of the Rep proteins~~ set forth in any of SEQ ID Nos. 113-116, 213-216, 233-244, 277-280, ~~290~~ 293, 294, 297 and 298.

98. (Previously presented) A recombinant AAV, comprising the nucleic acid molecule of claim 45.

99. (Previously presented) A recombinant AAV, comprising the nucleic acid molecule of claim 96.

100. (Previously presented) A recombinant AAV, comprising the nucleic acid molecule of claim 97.

101. (New) A nucleic acid molecule of claim 45, encoding a mutant AAV Rep protein having mutations at one or more amino acid residues, whereby the activity of the mutant Rep protein is increased as assessed by rAAV production compared to the wild type Rep protein,

wherein:

the mutations comprise replacements of native amino acid residue(s) selected from among: L by S at position 542 of SEQ ID No. 747; or R by S at position 548 of SEQ ID No. 747; or the same replacements at the corresponding positions in the other serotypes;

residue 1 corresponds to residue 1 of the Rep78 protein encoded by nucleotides 321-2186 of SEQ ID No. 746 of the AAV-2 genome; and

the listed positions reference positions in the sequence of amino acids set forth in SEQ ID NO:747 encoded by wildtype AAV-2 nucleic acid molecules set forth in SEQ ID NO:746.

102. (New) A nucleic acid molecule of claim 101, wherein:

the nucleic acid molecule encode Rep proteins in any of AAV-1, AAV-2, AAV-3, AAV-3b, AAV-4, and AAV-6 containing the same replacements at the corresponding positions.

103. (New) A recombinant AAV, comprising the nucleic acid molecule of claim 101.

104. (New) A recombinant AAV, comprising the nucleic acid molecule of claim 102.